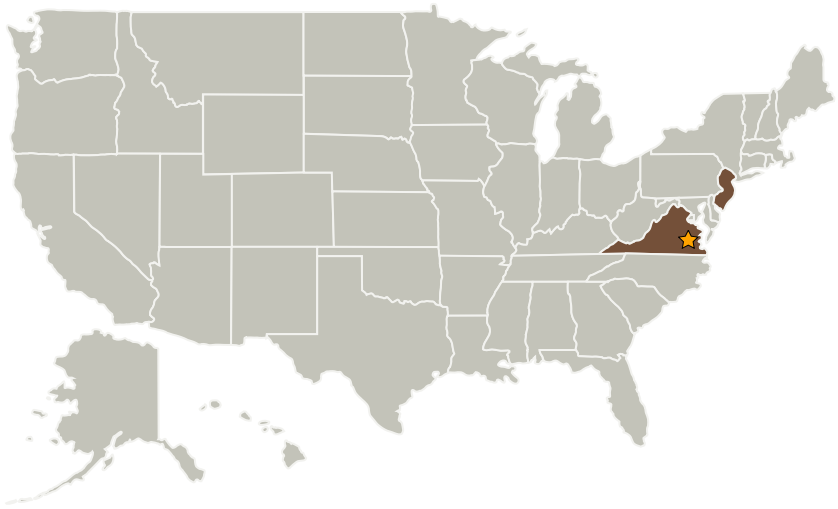
A Post-Processing System for Physics Based Derived Rotorcraft Computational Aero-Acoustics Simulations, Phase I

Completed Technology Project (2007 - 2007)

Project Introduction

Intelligent Light, the makers of the FIELDVIEW CFD post-processing software, in response to NASA SBIR Phase 1 solicitation, proposes an effort that addresses A2.10 Rotorcraft-Acoustics. The proposed work shall result in a specialized prototype post-processing system designed for large rotorcraft acoustics problems. This system is designated as RCAAPS -- Rotorcraft Computational Aero-Acoustics Post-processing System. It is designed to expedite the exploration of large transient datasets that result from multi-physics based (i.e. Large-Eddy Simulation with aeroelasticity and acoustics) simulations as it pertains to rotorcraft performance predictions especially maneuver. It consists of specially configured hardware, flow solver, acoustics and post-processing software enhanced to take advantage of contemporary SMP computer clusters during both compute and I/O. The prototype system developed under this SBIR will revolutionize the way investigators explore large datasets and allows for more complete and thorough use of the complete CFD and acoustics data.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
JMSI, Inc. dba Intelligent Light	Supporting Organization	Industry	Rutherford, New Jersey

Primary U.S. Work Locations	
New Jersey	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX14 Thermal Management Systems
  - TX14.2 Thermal Control Components and Systems
    - TX14.2.5 Thermal Control Analysis